

APCD/AQMD RULE EVALUATION FORM – Page 1
(Electronic Format)**I. GENERAL INFORMATION**District: South Coast Air Quality Management DistrictRule No(s): 1110.2 [Including the July 9, 2010; September 7, 2013; December 4, 2015; and June 3, 2016 Amendments]Rule Title(s): Emissions from Gaseous- and Liquid-Fueled EnginesDate Submitted to ARB: March 24, 2017If an Amended Rule, Date Last Amended (or Adopted): Amended February 2, 2008Is the Rule Intended to be Sent to the U.S. EPA as a SIP Revision? ☒ Yes ☐ No (If No, do not complete remainder of form)District Contact: Tracy Goss, Planning and Rules Manager Phone Number: (909) 396-3106E-mail Address: tgoss@aqmd.govNarrative Summary of New Rule or Rule Changes: ☐ New Rule ☒ Amended RuleJuly 9, 2010 Amendment

This amendment to Rule 1110.2 added an exemption for internal combustion engines operated at one remote public safety communication facility in southwestern Riverside County on Santa Rosa Peak at over 7,400 feet altitude that does not have access to electric power or natural gas. The facility includes a communications tower and support equipment operated by Riverside County and used by fire, police and other public safety agencies. The site has limited access during winter. This exemption allows the use of diesel generators at the site.

September 7, 2012 Amendment

Consistent with staff's August 2012 Final Technology Assessment findings, this amendment re-established the previously adopted emission limits (11 ppm NOx; 30 ppm VOC; and 250 ppm CO) for biogas-powered internal combustion engines. The amendment provided additional time for compliance until January 1, 2016; a compliance option for a longer averaging time for engines with superior performance in achieving lower mass emissions; and a compliance option that further extended the effective date (up to January 1, 2018) for certain engines with the payment of a compliance flexibility fee.

December 4, 2015 Amendment

This amendment extended the compliance date to January 1, 2017 for all biogas engines, provided a compliance option for additional time with the payment of a compliance flexibility fee (up to January 1, 2019), and addressed U.S. EPA's concerns on equipment breakdowns and potential excess emissions without enforcement by establishing a limit for exceedances due to breakdowns without enforcement action per calendar quarter.

June 3, 2016 Amendment

The December 4, 2015 amendment provided the regulated community with additional time to comply with the biogas engine limits. Staff was directed to return to the SCAQMD Governing Board with an amendment that would provide relief for one affected facility as expeditiously as possible with the proper CEQA analysis. This single facility operates two landfill gas-fired engines at the Prima Deshecha Landfill, is subject to a power purchase agreement (PPA) that expires on October 1, 2022, and cannot economically meet the established compliance deadline of January 1, 2017. This amendment exempted the facility operator from the emission requirements of the rule, contingent on the facility submitting a retirement plan for the permanent shutdown of all equipment subject to this rule at the expiration date of the PPA.

Pollutant(s) Regulated by the Rule (Check): ☒ ROG ☒ (NOx) ☐ SO₂ (Administrative and Protocol Only)
☒ (CO) ☐ PM ☐ TAC (name): _____

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II. EFFECT ON EMISSIONS

Complete this section ONLY for rules that, when implemented, will result in quantifiable changes in emissions. Attach reference(s) for emission factor(s) and other information. Attach calculation sheet showing how the emission information provided below was determined.

Net Effect on Emissions: ☐ Increase* ☒ Decrease** ☐ N/A

Emission Reduction Commitment in SIP for this Source Category: 0.43 ton/day NOx, 0.273 ton/day ROG (VOC), and 3.61 ton/day CO from the 2008 amendments (see SIP submittal for 2008 amendment). The emission reduction commitment for the 2008 amendment from biogas engines which was not submitted into the SIP was 0.62, 0.099, and 0.03 tons per day NOx, VOC, and CO, respectively. The 2012 amendment resulted in an updated calculation of emission reductions from biogas engines amounting to 0.9 ton/day NOx, 0.5 ton /day VOC, and 20.0 ton/day CO.

Inventory Year Used to Calculate Changes in Emissions: 2004-2006 for 2010 amendments and 2011 for 2012 amendment Area Affected: SCAQMD

Future Year Control Profile Estimate (Provide information on as many years as possible):

July 9, 2010 Amendment

The 2010 rule amendment resulted in maximum daily emission increases of 17 pounds of NOx, 1 pound VOC, and less than 1 pound of PM and SOx compared with a Rule 1110.2 compliant engine. However, this amendment resulted in a decrease in emissions of CO up to 11 pounds per day relative to a rule compliant engine. The inventory for this amendment was based on the inventory used for 2008 amendment.

2010 Amendment (tpd)	NOx	VOC	CO	
Previous SIP Balance (Reductions from 2008 Amendment SIP Submittal)	0.43	0.273	3.61	(A)
Remaining Total Emissions (biogas limits not yet in effect)	3.05	0.659	7.73	(B)
Emissions Increase/Decrease	+0.0085	+0.0005	-0.0055	(C)
Updated Remaining Total Emissions (7/1/11)	3.06	0.660	7.72	(D = B + C)
Updated SIP Balance (reductions)	0.42	0.273	3.62	(E = A - C)

September 7, 2012 Amendment

The biogas limits established in the 2008 amendment for July 1, 2012 did not go into effect because they were subject to a technology assessment that was not performed until 2012. A new baseline was calculated for the 2012 amendment for biogas engines. The emissions baseline was calculated from the current Rule 1110.2 rule limits and permit limits for each unit, taking engine size, efficiency, and hours of operation into consideration. Permit limits were used for some engines because they were permitted at BACT or have more stringent permit limits than in the current rule. The future reduced emissions were calculated from the proposed Rule 1110.2 limits. The emission reductions determined for this amendment would not be submitted into the SIP until a later date.

2012 Amendment (tpd)	NOx	VOC	CO
Remaining Total Emissions with new Biogas Baseline	3.43	1.02	28.54
New Biogas Emission Reductions (credit not taken)	0.9	0.5	20.0
SIP Balance (reductions, unchanged from 2010 Amendment)	0.42	0.273	3.62

December 4, 2015 Amendment

The new compliance deadline for biogas engines is January 1, 2017. Final compliance would not be achieved until January 1, 2019 due to the alternate compliance option for some engine operators, including those with demonstration projects.

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2015 Amendment (tpd)	NOx	VOC	CO	
Remaining Total Emissions with 2012 new Biogas Baseline	3.43	1.02	28.54	(F)
Biogas Emission Reductions from 2012 Amendment	0.9	0.5	20.0	(G)
Updated Remaining Total Emissions (1/1/19)	2.53	0.52	8.54	(H = F – G)
Updated SIP Balance (reductions)	1.32	0.773	23.62	(I = E + G)

June 3, 2016 Amendment

The total emission reductions for biogas engines determined during the 2012 amendments would be delayed until October 1, 2022 when the single facility that was exempted for this amendment permanently shuts down its two landfill gas-fired engines, per the rule requirements. Once the engines shut down, it is assumed that the facility will flare the gas with the landfill's existing flare. The result of this would increase the NOx emissions by 0.0155 tpd and reduce the VOC and CO emissions by 0.01 and 0.167 tpd, respectively (J below). However, it is unknown at this time if another operator would install new engines at this location or if the landfill gas would be utilized in another manner (i.e. pipeline injection, vehicle fueling, other beneficial use). The NOx emission reductions foregone of 0.0155 tpd would be recovered by way of the SCAQMD 2016 Air Quality Management Plan's Control Measure CMB-03, which addresses non-refinery flares. The control measure targets beneficial uses of biogas along with a regulatory method of control for the installation of cleaner emitting flares if the beneficial use of the biogas is infeasible. On this basis, the SIP reductions will remain unchanged from those determined for the 2015 Amendment (Equation I above).

2016 Amendment (tpd)	NOx	VOC	CO	
Remaining Total Emissions (1/1/19)	2.53	0.52	8.54	(H)
Emissions Increase/Decrease	+0.0155	-0.01	-0.167	(J)
Updated Remaining Total Emissions (10/1/2022)	2.54	0.51	8.38	(K = H + J)
SIP Balance (reductions, unchanged from 2015 Amendment)	1.32	0.773	23.62	(I = E + G)

Baseline Inventory in the SIP for the Control Measure: 2014 Annual Average: 12.1 tpd NOx and 14.2 tpd VOC (Control Measure #2007 MCS-01)

Emissions Reduction Commitment in the SIP for the Control Measure: The emissions reduction commitment by the 2007 Control Measure MCS-01 Facility Modernization, would be partially implemented by Rule 1110.2.

Revised Baseline Inventory (if any): N/A

Revised Emission Reduction Estimate (if developed): 1.32 ton/day NOx, 0.773 ton /day ROG (VOC), and 23.62 ton/day CO.

Note that the district's input to the Rule Evaluation Form will not be used as input to the ARB's emission forecasting and planning.

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III. SOURCES/ATTAINMENT STATUS

District is: ☐ Attainment ☒ Nonattainment ☐ Split

Approximate Total Number of Small (<100 TPY) Sources Affected by this Amendment: 405

Percent in Nonattainment Area: 100%

Number of Large (\geq 100 TPY) Sources Controlled: 8 Percent in Nonattainment Area: 100%

Name(s) and Location(s) (city and county) of Large (\geq 100 TPY) Sources Controlled by Rule *(Attach additional sheets as necessary)*

<u>Facility Name</u>	<u>City</u>	<u>County</u>
Southern California Edison	Avalon	Los Angeles
Orange County Sanitation District	Huntington Beach	Orange
Orange County Sanitation District	Fountain Valley	Orange
Los Angeles County Sanitation District *	City Of Industry	Los Angeles
MM Lopez Energy, LLC	Los Angeles	Los Angeles
Southern California Gas, Honor Rancho	Valencia	Los Angeles
Penrose Landfill Gas Conversion, LLC *	Sun Valley	Los Angeles
California Hospital Medical Center *	Los Angeles	Los Angeles

* Facility ICE sources subject to Rule 1110.2 have since shut down

IV. EMISSION REDUCTION TECHNOLOGY

Does the Rule Include Emission Limits that are Continuous? ☒ Yes ☐ No

If Yes, Those Limits are in Section(s) (d) of the Rule.

Other Methods in the Rule for Achieving Emission Reductions are: N/A

V. OTHER REQUIREMENTS

The Rule Contains:

Emission Limits in Section(s): (d) Work Practice Standards in Section(s): (f)

Recordkeeping Requirements in Section(s): (f) Reporting Requirements in Section(s): (f)

VI. IMPACT ON AIR QUALITY PLAN

☐ No Impact ☐ Impacts RFP ☒ Impacts attainment

Discussion: The rule amendments for 2010, 2012, 2015 and 2016 are expected to result in emission reductions of 1.32 tons/day NOx, 0.773 tons/day VOC, and 23.62 ton/day CO. The amendments to Rule 1110.2 were done to partially implement the 2007 Air Quality Management Plan Control Measure MCS-01 – Facility Modernization, which requires facilities not participating in the NOx Regional Clean Air Incentives Market (RECLAIM) program to retrofit or replace existing equipment to achieve NOx emissions equivalent to BACT. In addition to achieving NOx emission reductions, one of the objectives of the amendments to Rule 1110.2 is to achieve further VOC and CO emission reductions based on the cleanest available technologies toward attainment of the ozone standard.